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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,979	02/12/2004	Emily Eng	112056-0180	7439
24267	7590	09/13/2006	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			IQBAL, NADEEM	
			ART UNIT	PAPER NUMBER
			2114	

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/777,979

Applicant(s)

ENG ET AL.

Examiner

Nadeem Iqbal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11-13,15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) 3-10,14,16 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3 & 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 3 & 4 recites the limitation "PCPI identifier" in lines 4 & 3 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1, 2, 11-13, 15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cabrera et al., (U.S. Patent number 6708227).

1. As per claim 1, Cabrera et al., (Cabrera) teaches (col. 4, lines 39-43) an application programming interface that acts to standardize protocols used in connection with different snapshots providers. He also teaches an interface volume snapshot service coordinator (VSSC) which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information. He thus teaches limitations pertain to providing a file system information (fsinfo) block associated with an active file system executing on the storage system. He also teaches providing one or more PCPI fsinfo blocks. He also teaches (col. 4, lines 34-36) an application interface (API) that acts as a coordinator/manager of different volume snapshot providers. He does not explicitly disclose volume information block comprising a plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks. He teaches (col. 4, lines 40-43) API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information. It would have been obvious to a person of ordinary skill in the art at the time the information was made to realize API performs equivalent operation to that of volume information block since API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information, clearly requiring plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks.

2. As per claim 2, Cabrera teaches (col. 4, lines 62-64) that API can create snapshots by performing such acts as initiating a snapshot set, adding to a pre-existing snapshot set, and

causing the snapshot sets to be taken, therefore the API includes pointer that would comprise volume block numbers.

3. As per claim 11, Cabrera substantially teaches the claimed invention as disclosed related to claim 1 above. He also teaches (col. 4, lines 39-43) an interface volume snapshot service coordinator (VSSC) which is used to coordinate and administer multiple snapshot providers as well as maintains other snapshot information. He thus teaches limitations pertain to a system adapted to maintain an increased number of persistent consistency point images for a volume of a storage system. He also teaches providing one or more PCPI fsinfo blocks. He also teaches (col. 4, lines 34-36) an application interface (API) that acts as a coordinator/manager of different volume snapshot providers. He does not explicitly disclose volume information block and that the storage device further adapted to store a plurality of file system information (fsinfo) blocks referenced the volinfo block. He teaches (col. 4, lines 40-43) API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information. It would have been obvious to a person of ordinary skill in the art at the time the information was made to realize API performs equivalent operation to that of volume information block since API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information, clearly requiring plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks.

4. As per claim 12, Cabrera teaches (col. 4, lines 32-34) that the invention related to computer system that employ snapshot services to aid in efficient backup, restore or recovery services, therefore the invention related to storage device including a disk.

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5. As per claim 13, Cabrera teaches (col. 5 lines 20-23) that VSSC has the ability to keep track of who has taken a volume snapshot of whom among different volume snapshots provided.

6. As per claims 15 & 17, Cabrera teaches (col. 5 lines 20-23) API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information, clearly requiring plurality of pointers configured to reference the fsinfo blocks.

7. As per claim 18, Cabrera substantially teaches the claimed invention as disclosed related to claim 1 above. He also teaches (col. 4, lines 39-43) an interface volume snapshot service coordinator (VSSC) which is used to coordinate and administer multiple snapshot providers as well as maintains other snapshot information. He thus teaches limitations pertain to a system adapted to maintain an increased number of persistent consistency point images for a volume of a storage system. He also teaches providing one or more PCPI fsinfo blocks. He also teaches (col. 4, lines 34-36) an application interface (API) that acts as a coordinator/manager of different volume snapshot providers. He does not explicitly discloses volume information block and that the volinfo block comprises a plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks. He teaches (col. 4, lines 40-43) API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information. It would have been obvious to a person of ordinary skill in the art at the time the information was made to realize API performs equivalent operation to that of volume information block since API calls is provided, which is used to coordinate and administer multiple snapshot providers as well

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as maintain other snapshot information, clearly requiring plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks.

8. As per claim 19, Cabrera substantially teaches the claimed invention as disclosed related to claim 1 above. He also teaches (col. 4, lines 39-43) an interface volume snapshot service coordinator (VSSC) which is used to coordinate and administer multiple snapshot providers as well as maintains other snapshot information. He thus teaches limitations pertain to a system adapted to maintain an increased number of persistent consistency point images for a volume of a storage system. He also teaches providing one or more PCPI fsinfo blocks. He also teaches (col. 4, lines 34-36) an application interface (API) that acts as a coordinator/manager of different volume snapshot providers. He does not explicitly disclose volume information block and that the volinfo block comprises a plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks. He teaches (col. 4, lines 40-43) API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information. It would have been obvious to a person of ordinary skill in the art at the time the information was made to realize API performs equivalent operation to that of volume information block since API calls is provided, which is used to coordinate and administer multiple snapshot providers as well as maintain other snapshot information, clearly requiring plurality of pointers configured to reference the fsinfo and PCPI fsinfo blocks.

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Allowable Subject Matter

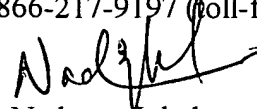
9. Claims 3-10, 14, 16, 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadeem Iqbal whose telephone number is (571)-272-3659. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Baderman Scott can be reached on (571)-272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Nadeem Iqbal
Primary Examiner
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NI